

CLAIMS

1. A porous film with chemical resistance, comprising a porous film base, and a chemical-resistant polymeric compound covering the porous film base, wherein the porous film comprises a multiplicity of communicating micropores, and wherein the micropores have an average pore size of 0.01 to 10  $\mu\text{m}$ .
2. The porous film of claim 1, wherein the chemical-resistant polymeric compound is at least one selected from the group consisting of phenolic resins, urea resins, melamine resins, benzoguanamine resins, polyimide resins, epoxy resins, benzoxazine resins, polypropylene resins, polyurethane resins, fluororesins, alkyd resins, cellulose acetate resins, phthalic resins, maleic resins, silicone resins, triazine resins, furan resins, polyester resins, xylene resins, poly(vinyl alcohol)s, ethylene/vinyl alcohol copolymers, chitins, and chitosans.
3. The porous film of claim 1 or 2, wherein the porous film has a thickness of 5 to 200  $\mu\text{m}$ .
4. The porous film of any one of claims 1 to 3, wherein the porous film has a porosity of 30% to 80%.
5. A method for producing the porous film of any one of claims 1 to 4, comprising the steps of immersing a porous film base in a solution of a chemical-resistant polymeric

compound, the porous film base comprising a multiplicity of communicating micropores having an average pore size of 0.01 to 10  $\mu\text{m}$ , or spraying or applying the solution to the porous film base; and drying the resulting article to cover the 5 porous film base with the chemical-resistant polymeric compound to thereby yield the porous film.

6. A method for producing the porous film of any one of claims 1 to 4, comprising the steps of immersing a porous film base in a solution of a precursor of a chemical-resistant polymeric compound, the porous film base comprising a multiplicity of communicating micropores having an average pore size of 0.01 to 10  $\mu\text{m}$ , or spraying or applying the solution to the porous film base; drying the resulting article; and subjecting the dried article to 10 treatment with at least one selected from the group consisting of heat, ultraviolet rays, visible radiations, electron beams, and radioactive rays to cover the porous film base with the chemical-resistant polymeric compound to 15 thereby yield the porous film.